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## PROCEEDINGS OF SCIENTIFIC SOCIETIES.

AMERICAN GEOGRAPHICAL SOCIETY, Jan. 14th.—Major A. G. Constable lectured upon Afghanistan, the present seat of war, and the relations of that country to England and Russia.

Feb. 11.—Chief-Justice Daly delivered his annual address, the subject being Cartography, the history of map-making previous to the time of Mercator.

BOSTON SOCIETY OF NATURAL HISTORY, Dec. 18. — Dr. H. Hagen made a communication on the carpet-beetle and other house and museum pests.

Jan. 1, 1879. — Mr. L. S. Burbank remarked on a definite chronological record in certain stratified rocks; also on veins and enclosures in the granite of Rollstone Hill, Fitchburg, Mass., and exhibited crystals and cut gems of yellow beryl from Fitchburg.

Jan. 15.—Prof. R. H. Richards remarked on some optical phenomena seen at Lake Superior. Prof. N. S. Shaler spoke concerning the Brighton Amygdaloids.

Feb. 5.—Dr. S. Kneeland read a paper on the monstrous in art, or the relations of zoölogy to symbolism. Mr. W. O. Crosby remarked on the fossiliferous boulders of Cape Cod. Dr. T. Sterry Hunt referred to recent studies in Pre-Cambrian geology.

APPALACHIAN MOUNTAIN CLUB, Jan. 8.—At the election of officers for 1879, Prof. Charles E. Fay was elected president. Mr. Frederick A. Ober read a paper on his explorations in the Lesser Antilles (illustrated by stereopticon views).

Feb. 12.—Mr. J. Raynor Edmands read a paper on the identification of distant points, with a description of Prof. Fernald's recent determination of the position of Mt. Katahdin, Me.

PROCEEDINGS OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, December 17, 1878.—President, Ruschenberger, in the chair; Mr. Meehan made some remarks on the seeding of Catalpa, stating that terminal flowers only perfect seed. Mr. Ford from a perfect specimen of *Nautilus pompilius* suggested that the use of the siphon was to keep alive that part of the shell constituting the chambers. Mr. Ryder offered some observations on variations in the number of toes of young *Amphiumæ*, suggesting that the two hitherto recognized genera were hardly yet differentiated from each other.

December 31.—Dr. Ruschenberger in the chair. Dr. Koenig gave the results of an analysis of a new mineral substance which he proposed to call *Randite*, provisionally. In the election for officers to serve for the ensuing year, which occurred at this meeting, no changes were made from those who served during the preceding annual term.

January 7, 1879.—Dr. Ruschenberger in the chair. The President announced the death of the Rev. Dr. E. R. Beadle, January

6th, aged 66 years. Messrs. Redfield, Rogers, and Leidy were appointed a committee to draft resolutions expressive of the Academy's esteem for Dr. Beadle. The annual reports of the Sections were then read and referred to the publication committee.

January 14.—Dr. Ruschenberger in the chair. Mr. Redfield for the committee, offered a resolution regarding the death of Dr. Beadle, which was unanimously adopted.

Mr. H. A. Kelly exhibited some handsome and perfect casts of batrachians taken from the animals themselves in gelatine molds. Mr. Ryder said he had recently observed that the jaws of herbivora were moved from without inwards, instead of the reverse, which threw new light upon the subject of the "mechanical genesis of tooth-forms." Dr. Leidy exhibited some lemons with a species of coccus or scale insect adhering to the rind, which he thought might become a serious pest in Florida, from whence the specimens were obtained. A letter accompanied with blanks, from Charles F. Folsom, was read by the President, requesting the coöperation of the members of the Society, in the collection of statistics relating to the subject of heredity.

December 16th, 1878.—Biological and Microscopical Section, Dr. R. S. Kenderdine in the chair. Professor J. Gibbons Hunt delivered a very interesting lecture on the lichens. His remarks were beautifully illustrated by many fine specimens of his own preparation, demonstrating the minute structure of these simple plants, which are found everywhere encrusting rocks, stones, the bark of trees, etc. A dish in which a large number of specimens were tastefully arranged by Professor Hunt under a bell-glass attracted much attention, forming as it did a display quite equal in beauty to the handsomest fernery. Speaking of their habitat, the speaker said that these, as well as many other interesting plants, were found in the greatest profusion and variety in the swamps of New Jersey, which he called the paradise of the botanist. After going briefly over the classification of these plants, the lecturer entered upon their anatomy. The great interest and value of the study of these plants as a means of mental discipline, and their use in the arts of design, were also dwelt upon by the speaker. Mr. Lewis exhibited a specimen of a rare wheel animalcule of marvelous beauty belonging to the genus *Stephanoceras* from the vicinity of Philadelphia.

Jan. 6.—Biological and Microscopical Section, Dr. R. S. Kenderdine in the chair. Dr. Carl Seiler favored the society with a discussion of the leading facts of animal histology, the branch of science which has for its subject-matter the consideration of the various kinds of cells composing animal bodies. He considered the classification of the living tissues according to their offices. These, he said, could be very simply and conveniently divided into three classes, as follows:—1st, connective; 2d, epithelial; and 3d, the nervous.

The speaker's remarks were illustrated by numerous beautiful microscopical objects prepared by himself, some of which showed as many as four different colors, each component part of the cells being of a different color, all of which had been accomplished by artificial means, though the process was comparatively a simple one. The great practical use of the study of histology and the comparative ease with which its main principles might be acquired, were dwelt upon, as well as the great facilities which were now offered to students owing to the mechanical and optical perfection of American microscopes, and the excellence of the technical processes devised and discovered by our own students.

Some further remarks were made by Dr. Dixon, Mrs. Professor White and Dr. Hunt, the latter of whom differed with Dr. Seiler in relation to some minor points relating to the origin of the connective tissues.

Mr. J. A. Ryder then offered a résumé of recent researches on the very first stages of cell-division and multiplication as worked out by the younger European biologists, who seem to have left off where the older workers began. These researches, he believed, indicated more decidedly than ever the identity of animal and vegetable protoplasm. In both the animal and vegetable cell the behavior of the central nucleus of the cell seemed to be quite the same; as it elongated preparatory to division, it was seen to be composed of two opposite poles, from which very minute granules were disposed in lines radiating in every direction, whilst curved lines of granules connected the poles. The appearance was that presented by iron filings scattered on a plate of glass, and made to arrange themselves in a curious fashion when the poles of a horseshoe magnet are applied beneath. It was not claimed that the process of cell-division was a magnetic process, but it was simply a resemblance which was suggested between the two phenomena. The curved lines of granules uniting the poles of the cell-nucleus, in the course of time, form nodes or enlargements which mark the point of division equatorially of the cell into two. The radiate arrangement of the granules at the opposite poles of the nucleus has induced Fol to call it an *amphiaster*, meaning like two stars joined together. The formation of the female and male pronucleus in the egg-cell was also considered, and shown to be produced previous to fertilization, at least in the case of a star-fish and a small species of leech. Many further observations were offered in regard to certain recently-discovered phases of embryonic development.

Mr. Lewis exhibited a fine living specimen of wheel-animalcule, the *Lymnias*.